

What Is Claimed Is:

1. Apparatus for effecting a desired geometric
change the annulus of a heart valve and limiting
mitral leaflet prolapse, said apparatus comprising:

first and second plication bands, each said
plication band comprising:

first and second legs each having a first
end, said first ends of said first and second legs
having a tissue piercing configuration; and

a bridge having first and second ends, said
first end of said bridge being connected to said first
leg and said second end of said bridge being connected
to said second leg such that said first ends of said
first and second legs are separated by a first given
distance;

said bridge being configured such that when
said first ends of said first and second legs have
pierced tissue at said first given distance, said
bridge may be deformed so as to cause said first ends
of said first and second legs to move toward one

another so as to thereafter be separated by a second,
shorter given distance, whereby said first and second
legs gather together the pierced tissue to effect a
desired geometric change in the annulus of the heart
valve; and

a linking construct connected to said first and
second plication bands.

2.. A method for effecting a desired geometric
change the annulus of a heart valve and limiting
mitral leaflet prolapse, said method comprising the
steps of:

providing apparatus for effecting a desired
geometric change in the annulus of a heart valve, said
apparatus comprising:

first and second plication bands, each said
plication band comprising:

first and second legs each having a
first end, said first ends of said first and second
legs having a tissue piercing configuration; and

a bridge having first and second ends,

said first end of said bridge being connected to said first leg and said second end of said bridge being connected to said second leg such that said first ends of said first and second legs are separated by a first given distance;

said bridge being configured such that when said first ends of said first and second legs have pierced tissue at said first given distance, said bridge may be deformed so as to cause said first ends of said first and second legs to move toward one another so as to thereafter be separated by a second, shorter given distance, whereby said first and second legs gather together the pierced tissue to effect a desired geometric change in the annulus of the heart valve; and

a linking construct connected to said first and second plication bands;

deploying said first plication band in tissue, and deploying said second plication band in tissue such that said linking construct extends across the

mouth of the valve and draws the two portions of tissue together, thereby limiting leaflet prolapse.

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